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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

MCCARTNEY, LINZY T

ART UNIT

PAPER NUMBER

2671

DATE MAILED: 06/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/896,148

Applicant(s)

SHIMODA ET AL.

Examiner

Linzy McCartney

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5 and 6. 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, and 7-9 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Raskar et al., “Image Precision Silhouette Edges”.

a. Referring to claim 1, Raskar discloses a surface direction judging means for judging a direction of a surface constituting a three-dimensional model, in relation to a viewpoint (page 2, column 1, paragraph 1; page 3, column 1, paragraph 6; page 4, column 1, paragraph 6) and a contour generating means for shifting an original surface that faces a back side in relation to the viewpoint, in a direction of a normal (page 3, column 1, paragraph 6; page 4, column 1, paragraph 6), and for painting the shifted surface with a color that is darker than a color of the original surface (Fig. 4).

b. Referring to claim 2, Raskar discloses generating said shifted surface with a different quantity of shift for each three dimensional model (page 3, column 2, paragraphs 1 and 2).

c. Referring to claim 7, Raskar discloses judging a direction of a surface constituting a three dimensional model in relation to a viewpoint (page 2, column 1, paragraph 1; page 3, column 1, paragraph 6); and shifting an original surface that faces a back side in relation to the viewpoint, in a direction of a normal (page 3, column 1, paragraph 6), and

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painting the shifted surface with a color that is darker than color of the original surface (Fig. 4).

d. Referring to claim 8, Raskar discloses judging a direction of a surface constituting a three dimensional model, in relation to a view point (page 2, column 1, paragraph 1; page 3, column 1, paragraph 6; page 4, column 1, paragraph 6); and giving instructions of shifting an original surface that faces a backside in relation to the viewpoint, in a direction of a normal (page 3, column 1, paragraph 6; page 4, column 1, paragraph 6), and of painting the shifted surface with a color that is darker than a color of the original surface (Fig. 4).

e. Referring to claim 9, Raskar discloses judging a direction of a surface constituting a three dimensional model, in relation to a viewpoint (page 4, column 1, paragraph 6; page 2, column 1, paragraph 1; page 3, column 1, paragraph 6); and giving instructions of shifting an original surface that faces a back side in relation to the viewpoint, in a direction of a normal (page 4, column 1, paragraph 6; page 3, column 1, paragraph 6), and of painting the shifted surface with a color that is darker than a color of the original surface (Fig. 4).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Raskar as applied to claim 1 above in view of Lake et al., “Stylized Rendering Techniques for Scalable Real-Time 3D Animation”.

a. Referring to claim 3, Raskar does not explicitly disclose painting said shifted surface with a different color for each three dimensional model. Lake discloses rendering silhouettes (i.e., the shifted surfaces of Raskar) using a darker shade of the material color (page 17, column 2, paragraph 5). At the time the invention was made it would have been obvious to a person of ordinary skill in the art to modify the system of Raskar to color the silhouettes a darker shade of the material color as taught by Lake. The suggestion/motivation for doing so would have been because ink lines in cartoons are traditionally a darker shade of the material color (Lake, column 2, paragraph 5) and the system of Raskar is directed toward nonphotorealistic rendering applications (Abstract) such as cartoons.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Raskar as applied to claim 1 above further in view of Lake still further in view of U.S. Patent No. 6,361,438 to Morihira.

a. Referring to claim 4, Raskar does not explicitly disclose generating a shifted surface with a smaller quantity of shift with a color closer to the color of the original surface, as the three dimensional model exists more distantly from a screen. Lake discloses reducing the width of the silhouette (i.e., the “fat” shifted surface disclosed by Raskar; note that the “fattening” is accomplished by altering the distance of the edge) with increasing distance (Lake, page 17, column 2, paragraph 5). Morihira discloses that

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the color of the object model is closer to the color of the original model as its distance from the screen increases (column 8, lines 4-24). At the time the invention was made it would have been obvious to one of ordinary skill in the art to modify the system Raskar by reducing the width of the silhouette as taught by Lake and having the color of the object model become closer to the original model as its distance from the screen increases as taught by Morihira. The suggestion/motivation for doing so would have been because the system of Raskar is directed to real-time nonphotorealistic rendering applications including animation (Raskar, Abstract, page 4; column 2, paragraphs 2 and 4), it would reduce the clutter of the silhouette edges (Raskar, page 4, column 2, paragraph 4) and it would allow the polygons to be rendered in more natural colors (Morihira, column 8, lines 24).

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Raskar as applied to claim 2 above further in view of Lake still further in view of Morihira.

a. Referring to claim 5, Raskar does not explicitly disclose generating a shifted surface with a smaller quantity of shift with a color closer to the color of the original surface, as the three dimensional model exists more distantly from a screen. Lake discloses reducing the width of the silhouette (i.e., the “fat” shifted surface disclosed by Raskar; note that the “fattening” is accomplished by altering the distance of the silhouette) with increasing distance (Lake, page 17, column 2, paragraph 5). Morihira discloses that the color of the object model is closer to the color of the original model as its distance from the screen increases (column 8, lines 4-24). At the time the invention was made it would have been obvious to one of ordinary skill in the art to modify the system

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Raskar by reducing the width of the silhouette as taught by Lake and having the color of the object model become closer to the original model as its distance from the screen increases as taught by Morihira. The suggestion/motivation for doing so would have been because the system of Raskar is directed to real-time nonphotorealistic rendering applications including animation (Raskar, Abstract, page 4; column 2, paragraphs 2 and 4), it would reduce the clutter of the silhouette edges (Raskar, page 4, column 2, paragraph 4) and it would allow the polygons to be rendered in more natural colors (Morihira, column 8, lines 24).

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Raskar in view of Lake as applied to claim 3 above further in view of Morihira.

a. Referring to claim 6, Raskar does not explicitly disclose generating a shifted surface with a smaller quantity of shift with a color closer to the color of the original surface, as the three dimensional model exists more distantly from a screen. Lake discloses reducing the width of the silhouette (i.e., the “fat” shifted surface disclosed by Raskar; note that the “fattening” is accomplished by altering the distance of the silhouette) with increasing distance (Lake, page 17, column 2, paragraph 5). Morihira discloses that the color of the object model is closer to the color of the original model as its distance from the screen increases (column 8, lines 4-24). At the time the invention was made it would have been obvious to one of ordinary skill in the art to modify the system Raskar by reducing the width of the silhouette as taught by Lake and having the color of the object model become closer to the original model as its distance from the screen increases as taught by Morihira. The suggestion/motivation for doing so would have been

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because the system of Raskar is directed to real-time nonphotorealistic rendering applications including animation (Raskar , Abstract, page 4; column 2, paragraphs 2 and 4), it would reduce the clutter of the silhouette edges (Raskar, page 4, column 2, paragraph 4) and it would allow the polygons to be rendered in more natural colors (Morihiro, column 8, lines 24).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Linzy McCartney** whose telephone number is **(703) 605-0745**. The examiner can normally be reached on Mon-Friday (8:00AM-5: 30PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Mark Zimmerman**, can be reached at **(703) 305-9798**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

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ltm

June 25, 2003



MARK ZIMMERMAN
SUPERVISORY PATENT EXAMINER
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